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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,287	10/09/2001	Kenji Kimura	P21533	4894

7055 7590 11/28/2003

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RESTON, VA 20191

EXAMINER

RUTHKOSKY, MARK

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 11/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/926,287

Applicant(s)

KIMURA ET AL.

Examiner

Mark Ruthkosky

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 and 5-11 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tanaka et al. (US 5,989,747.)

The instant claims are to a non-aqueous electrolyte rechargeable battery including a battery case, an electrolyte, a positive electrode plate having a positive electrode current collector and a positive electrode material, and a negative electrode plate with a negative electrode material wherein the plates are wound with a separator in between. Corona discharge treatment is performed on the positive electrode material.

Tanaka et al. (US 5,989,747) teaches a non-aqueous electrolyte rechargeable battery including a battery case, an electrolyte, a positive electrode plate with a positive electrode material, a negative electrode plate with a negative electrode material wherein the plates are

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wound with a separator in between (see figure 4.) Polyolefin separators are noted in column 14, lines 1-15. The positive electrode may be lithium cobalt oxide (col. 12) on an aluminum current collector. The negative electrode includes a graphite-mixed active material on a copper current collector (col. 13, lines 35-60; lines 50-60 for SBR binder, and examples 1-2.) The battery electrodes are subject to corona discharge (see col. 21, lines 50-65.) The reference does not teach the process of corona discharge treatment performed on the positive electrode material.

It is noted that the step of performing corona discharge treatment on the battery components is a process step. MPEP 2113 states, "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process."

Claims 1-2 and 5-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kenichi et al. (JP 07-183,027.)

Kenichi et al. (JP 07-183,207) teaches a non-aqueous electrolyte rechargeable battery including a battery case, an electrolyte, a positive electrode plate with a positive electrode material, a negative electrode plate with a negative electrode material wherein the plates are wound with a separator in between (see the figures.) The electrode includes the active material and the conductive plate. The positive electrode may be lithium cobalt oxide on an aluminum current collector (paragraph 37.) The negative electrode includes graphite and carbon active materials with SBR binder on a copper current collector (paragraph 35.) The negative electrodes

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are subject to corona discharge (see col. 21, lines 50-65.) The reference does not teach the process of corona discharge treatment performed on the positive electrode material.

It is noted that the step of performing corona discharge treatment on the battery components is a process step. MPEP 2113 states, "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process."

### ***Claim Rejections - 35 USC § 103***

Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (US 5,989,747) OR Kenichi et al. (JP 07-183,027) as applied to claims 1-2 and 5-11 above, and further in view of JP 07-029,562.

Tanaka et al. (US 5,989,747) and Kenichi et al. (JP 07-183,027) both teach a non-aqueous electrolyte rechargeable battery including a battery case, an electrolyte, a positive electrode plate with a positive electrode material, and a negative electrode plate with a negative electrode material wherein the plates are wound with a separator in between. The battery electrodes are subject to corona discharge.

Tanaka et al. (US 5,989,747) and Kenichi et al. (JP 07-183,027) do not teach the polymer separators of the batteries, including polyolefin materials, to be subject to corona discharge. JP 07-029,562 teaches a non-aqueous electrolyte battery comprising a polymer separator prepared by corona discharge. It would be obvious to one of ordinary skill in the art at the time the

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invention was made to subject the polymer separator of the batteries of Tanaka et al. (US 5,989,747) or Kenichi et al. (JP 07-183,207) to corona discharge as the polymer separator will improve the electrolyte wettability and retaining ability of the separator providing improved ionic conduction. Further, it will lessen the effects of voltage defects or leakage from the separator, thus increasing the cycle lifetime of the battery.

### *Response to Arguments*

Applicant's arguments filed 7/22/2003 have been fully considered but they are not fully persuasive. The applicant's arguments with respect to the rejections under 35 U.S.C. 102 are noted with respect to the amendments to the claims. These amendments overcome the rejections based on Tanaka et al. (US 5,989,747) and Kenichi et al. (JP 07-183,027) under 35 U.S.C. 102. These rejections have been overcome by the amendment, however, the rejection under 35 U.S.C. 102/103 remains. In addition, a new rejection based upon the amended claims is added with regard to the Kenichi et al. (JP 07-183,027) document. The applicant's do not address the product-by-product limitations as noted in the rejection under 35 U.S.C. 102/103 in their arguments. These rejections have been recited based on the amendments to the claims and the rejections are made final.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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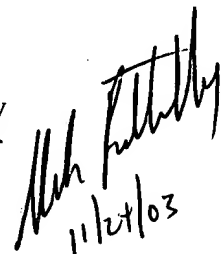
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

*Examiner Correspondence*

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1193. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 703-305-0587. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-6:00.) If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at 703-308-2383.

The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Mark Ruthkosky  
Patent Examiner  
Art Unit 1745

  
11/24/03